CLAIMS

1. A dimethyl ether steam reforming catalyst capable of steam-reforming dimethyl ether to obtain hydrogen, comprising active alumina, Cu, and at least one element selected from the group consisting of Mn and Fe, the catalyst being prepared by a sol-gel method, and the catalyst having a porous structure.

2. The dimethyl ether steam reforming catalyst according to Claim 1, wherein the total content of said Cu and said at least one element is 25 wt% to 35 wt%.

3. A dimethyl ether steam reforming catalyst capable of steam-reforming dimethyl ether to obtain hydrogen, comprising active alumina, Cu, and at least one element selected from the group consisting of Mn, Fe and Zn, the catalyst being prepared by a sol-gel method, and the catalyst having a porous structure, wherein the total content of said Cu and said at least one element is 25 wt% to 35 wt%.

4. The dimethyl ether steam reforming catalyst according to Claim 1 or 3, wherein said at least one element contains 0.1 wt% to 1.0 wt% of Mn.

5. The dimethyl ether steam reforming catalyst according to Claim 1 or 3, wherein said at least one element contains 0.5 wt% to 2.0 wt% of Fe.

6. The dimethyl ether steam reforming catalyst according to Claim 3, wherein said at least one element contains 0.1 wt% to 7.0 wt% of Zn.

7. The dimethyl ether steam reforming catalyst according to Claim 1 or 3, wherein an amount of pores having pore diameters of 80 Å to 200 Å occupy a largest volume in said porous structure.

8. A method for producing a dimethyl ether steam reforming catalyst capable of steam-reforming dimethyl ether to obtain hydrogen, comprising the steps of:

adding an acid, a Cu salt and at least one salt selected from the group consisting of Mn salts, Fe salts and Zn salts to an aluminum alkoxide to produce a sol;

drying the resulting sol by evaporation to produce a gel;

calcinating the resulting gel to obtain a solid; and

reducing the resulting solid.